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# High-Risk Pregnant Patients in the Third Trimester: Comparing Mental and Physical Health

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High-Risk Pregnant Patients in the Third Trimester: Comparing Mental and Physical Health

Submitted in Partial Fulfillment of the Requirements

NURS 5382 Capstone

Megan Maxwell

The University of Texas at Tyler, School of Nursing

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### **Executive Summary**

Pregnancy is a time where the body undergoes numerous changes necessary to accommodate the growing fetus. A normal, healthy pregnancy can turn into a high-risk pregnancy during any trimester. A pregnancy can be high-risk due to maternal or fetal complications. Some examples of these complications include preeclampsia, preterm premature rupture of membranes, incompetent cervix, intrauterine growth restriction, and various fetal anomalies. The most common treatment modality for high-risk pregnant patients is to be placed on bedrest. Depending on the severity of the diagnosis, the patient can be placed on bedrest either at home or at the hospital. It is estimated that 20-30% of pregnancies are high-risk, and this high-risk pregnant group is a part of the 70-80% perinatal mortality rate (Abhesera & Gonzalez-Mesa, 2015, p. 1). While a patient is on bedrest, their mental and physical health is affected. This project compared the mental and physical health of patients managed at home compared to those in the hospital. Most physicians admit their patients to the high-risk obstetrics unit at the hospital to be closely monitored. However, the current evidence is supportive of patients being managed at home.

#### **1. Rationale for the Project**

Hospitalization, especially during pregnancy, can cause negative effects on the physical and mental health of the patient. Bedrest can also negatively affect physical and mental health of pregnant patients. It is vital that providers are providing all-encompassing care to these patients by addressing present and potential issues. These high-risk pregnant patients need to have their mental and physical health assessed in order to prevent further complications with the pregnancy. A patient with mental health problems, such as depression and/or anxiety, during pregnancy is at an increased risk of their child having a future diagnosis of attention deficit disorder, language

problems, behavioral problems, and/or impulsivity (Dagklis et al., 2016, p. 1025). This statement shows the importance of screening the patient for mental health problems during every interaction with the provider. While on bedrest, a patient's physical health can be negatively affected. For example, by day two of bedrest, bone resorption starts to occur (Brando, Mottola, Gratton, & Maloni, 2013, p. 206). These two examples underscore the need for the provider to at least consider outpatient management as an option for high-risk pregnant patients in their third trimester. Providers should be educated that outpatient management can be a safe option for high-risk pregnant patients.

## **2. Literature Synthesis**

The literature review consisted of researching and identifying articles that demonstrated how physical and mental health were affected in hospitalized pregnant patients compared to those managed outpatient. This search also included articles that compared inpatient to outpatient management of certain high-risk pregnancy diagnoses. Many articles were compiled and incorporated into this project. The identified articles found are a key component to the project because they will be utilized for physician education on the topic of inpatient versus outpatient management of high-risk pregnant patients in the third trimester. This is important due to the effects that bedrest has on physical and mental health.

Physical health problems can arise as high-risk pregnant patients are placed on bedrest. Not only does bone resorption occur, these patients also have an increased risk of bone loss and demineralization (Kim & Park, 2018, p. 2). In high-risk pregnant patients who are managed inpatient compared to outpatient, the measures of bone status showed to be significantly lower than those who were managed in the hospital (Brandao et al., 2013, p. 208). Pregnant patients on bedrest may encounter physical health complications such as increased time to re-oxygenate the

gastrocnemius muscle indicating a decrease in muscular function and increase risk for thromboembolism (Kim & Park, 2018, p. 2). Physical wellbeing is important to maintain during pregnancy.

Mental health disorders can be diagnosed before or during pregnancy. Patients who are hospitalized are shown to be at higher risk of mental health problems. Dagklis et al. (2016) share that hospitalized pregnant women had an antenatal depression prevalence rate of 28% which put them at higher risk for miscarriage, preterm birth, preeclampsia, and low-birth-weight infants. It is important to assess and identify mental health problems in this patient population. In comparing hospitalized pregnant women to those managed outpatient and non-pregnant patients, the hospitalized group scored significantly lower in bodily pain, social functioning, vitality, and mental health (Nakamura et al., 2012, p. 185). Kim and Park (2017) further emphasize this statement by sharing that hospitalized pregnant women reported lower spiritual wellbeing when compared to women with healthy pregnancies and non-pregnant women. High-risk pregnant patients hospitalized during pregnancy are at a higher risk of mental health problems.

It is important to look at diagnoses that place pregnant patients into the high-risk category. Beckmann and Gardner (2013) concentrated on preterm pre-labor rupture of membranes; their study showed that the patients managed outpatient did not have significant statistical differences in perinatal morbidity/mortality and maternal morbidity when compared to the patients managed in the hospital. This study gives an example of a high-risk pregnancy diagnosis that can be considered for outpatient management. Schoen et al. (2017) focused on patients with preeclampsia and found no statistical difference in maternal morbidity in the patients managed outpatient compared to those managed as inpatients. These are two examples of common pregnancy diagnoses that can be managed outpatient instead of in the hospital.

### **3. Project Stakeholders**

For this project to be successful, it is important to involve all potential stakeholders. Their involvement will also bring feedback for implementation and the overall sustainability of the project. The stakeholders in this project include the director of women's and children's service line, chief of obstetrics and gynecology, maternal-fetal medicine consultants, obstetricians, obstetric residents, high-risk obstetric nurse manager, high-risk obstetric nurse supervisor, and high-risk obstetric nurses. The approval of the director and chief is vital to start the project. The support of the rest of the obstetric team is also key in order for the project to be successful. The stakeholders will be advocates for implementation of the proposed plan and will assist in sustaining the change in the treatment plan for the high-risk pregnant patient population.

### **4. Implementation Plan**

The project is focusing on decreasing the length of stay and hospital admission rates of high-risk pregnant patients. The following information will be a guide to implementation of the project. This project can be nurse led. The first step is to identify a high-risk obstetrics nurse who is comfortable talking about the various diagnoses that deem pregnant patients as high-risk as well as how hospitalization can affect these patients' physical and mental health. It is important to gather data from the high-risk obstetric unit on admission rates and length of stay data of high-risk pregnant patients in their third trimester. The next, would include gathering the data for the unit and highlight the data that is related to the obstetric office that will be of concentration. Subsequently, a one-page document would be created that highlights the following information: how physical and mental health is affected during hospitalization and information on the high-risk pregnancy diagnoses that should be considered for outpatient management. The document should include at least six research articles that support the

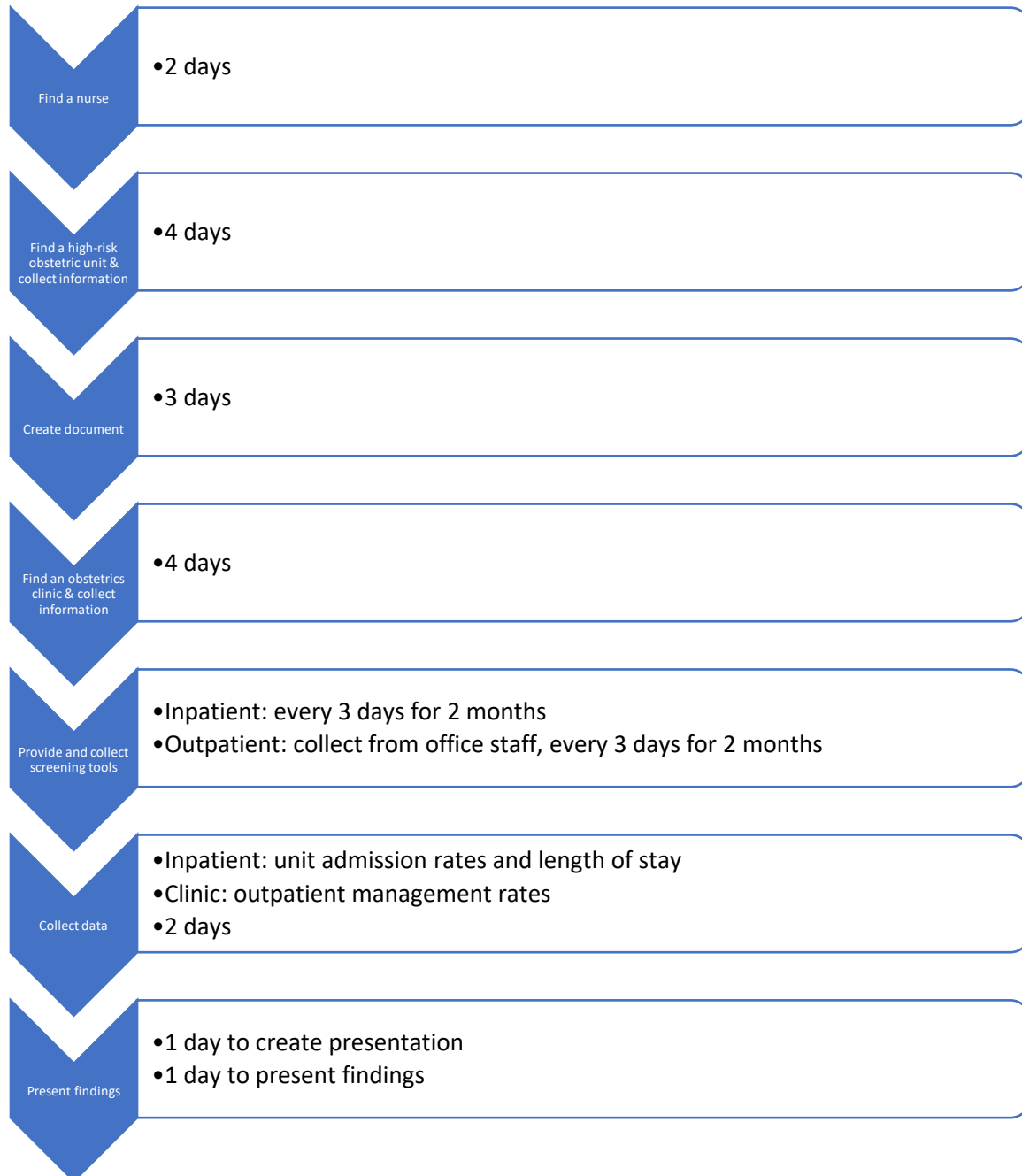


initiative to consider outpatient management for high-risk pregnant patients as well as a signature sheet showing the provider has read the information. The obstetric office chosen will need to share information regarding the number of high-risk pregnant patients being managed on an outpatient basis. Both the high-risk pregnant patients being managed outpatient and inpatient need to be available to complete an EPDS (Appendix A) and SF-36 (Appendix B) each week. Thereafter, continued collection of the completed forms and information on the number of patients being managed outpatient, admission rates to the hospital, and length of stay on the high-risk obstetric unit. After two months of data collection, a comparison should be made on the length of stay, admission rates, and outpatient management rates of high-risk pregnant patients in their third trimester to the starting data. This information should be presented to the nurse manager as well as the obstetric clinic. The presentation should include information regarding length of stay, admission rates, outpatient management rates, and the average scores on the EPDS and SF-36 of the two groups.

## **5. Timetable**

It is important to adhere to the timetable in order for the project to be successful. The approved timetable created should be implemented, in accordance with all established milestones, by the project lead. It should take no more than two days to find a high-risk obstetrics nurse to be the project lead. The next step is to find a high-risk obstetrics unit and collect information on admission rates and length of stay, which should take no more than four days. Next, create and share an educational document that will be given and reviewed with providers over the next three days. Next, identify an obstetric clinic and collect information on high-risk pregnant patients being managed as outpatient. This step should take no more than four days. Every three days for the next two months provide and collect EPDS and SF-36 forms

from the high-risk obstetrics unit as well as the obstetric clinic. Also, collect information on admission rates, length of stay, and outpatient management numbers. At the end of the two months, it should take two days to collect and assess the inpatient and outpatient data. Lastly, create a presentation to share with the stakeholders the subsequent day. This signifies the completion of the project.



## **6. Data Collection Methods/Planned Evaluation**

It is important to take the time to collect information to evaluate and document project is working as designed. Hospital and clinic data regarding high-risk pregnancy management, admission rates, and length of stay need to be collected prior to starting. After the providers are educated, this data will be compared to the current data over the following two months. At the hospital, high-risk third trimester patient's admission rates, length of stay information, EPDS, and SF-36 should be collected every three days. In the outpatient clinic, outpatient management rates of high-risk third trimester patients as well as the EPDS and SF-36 forms should be collected every three days. By collecting this data at the end of the two months, the individual who is leading the project will be able to compare the results by using descriptive statistics the hospital admission rates before and after provider education as well as the length of stay. The data will also show the percentage of high-risk pregnant patients being managed on an outpatient basis. Lastly, this information will demonstrate the differences in the effects of physical and mental health on the inpatient group compared to outpatient groups. In order for this project to be successful, admission rates and length of stay will decrease, and the number of patients managed outpatient will increase.

## **7. Cost/Benefit Discussion**

The project exhibits a reasonably low-cost, yet has the potential to yield major benefits. The hospital is focused on decreasing the length of patient's stay in order to lower healthcare costs. The nurse implementing the project would incur the largest cost. This project should require no more than four hours per week; therefore, the nurse should be able to work her scheduled hospital shifts and complete the project without the additional cost of overtime. According to an article titled How Much Does a Registered Nurse Make in Texas (2020) the average nurse makes

\$31.53 per hour in the state of Texas. The project will run for approximately 11 weeks. At four hours per week over the period of 11 weeks, using the average hourly pay, the cost of the nurse would approximate to \$1, 387 to complete the project. If required, the nurse could also spend time working on the project during work downtime so the project could further minimize costs if needed. The nurse would be able to utilize existing hospital resources, such as computer access with Microsoft Word and the unit printer. If the nurse is unable to use the unit resources, she can use the computer at the local library, which has Microsoft Word. The educational document can also be printed off at a local Staples, or similar store, for approximately \$0.13 per page (Copies and documents, 2019). The document will consist of a single page of educational content and a sheet for providers to sign, acknowledging they have read the information. This brings the total to approximately \$0.26 for the educational document. Therefore, the expected total cost of this project should be no more than \$1, 387.26.

## **8. Overall Discussion**

In researching the topic for this project, the research and information reviewed, documented the need for consideration of a change in how providers are caring for their high-risk obstetric patients. Hospitalized high-risk pregnant women are at a higher risk for physical and mental health complications than those women managed in an outpatient setting. The project needs to be implemented to find the exact results. The project should benefit patients and stakeholders as patients are able to stay home and hospital admission rates and the length of stay are decreased.

## **9. Recommendations**

The next step for this project is to begin the implementation process. I firmly believe that it would be beneficial to see the project come to fruition. As a future MSN nurse, I believe that projects like this are another key to providing better, safer care to our patients. I feel that it is

important to question the norm and status quo to question and determine if the care being provided is in-line with the latest evidence. The articles found while working on this project should be disseminated to the obstetric providers so they can be up to date on the current evidence of managing high-risk patients. This information should give obstetric providers the opportunity to consider outpatient management for their high-risk patients. This information would directly affect my colleagues and management of my hospital. By taking the time to implement this project, it has the potential to accomplish the hospital wide goal of decreased length of stay and will benefit the high-risk pregnant patients and their families.

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Appendix A



## Edinburgh Postnatal Depression Scale<sup>1</sup> (EPDS)

Name: \_\_\_\_\_ Address: \_\_\_\_\_

Your Date of Birth: \_\_\_\_\_

Baby's Date of Birth: \_\_\_\_\_ Phone: \_\_\_\_\_

As you are pregnant or have recently had a baby, we would like to know how you are feeling. Please check the answer that comes closest to how you have felt IN THE PAST 7 DAYS, not just how you feel today.

Here is an example, already completed.

I have felt happy:

- ☐ Yes, all the time  
☒ Yes, most of the time      This would mean: "I have felt happy most of the time" during the past week.  
☐ No, not very often      Please complete the other questions in the same way.  
☐ No, not at all

In the past 7 days:

- |   |   |
|---|---|
| <p>1. I have been able to laugh and see the funny side of things</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> As much as I always could</li> <li><input type="checkbox"/> Not quite so much now</li> <li><input type="checkbox"/> Definitely not so much now</li> <li><input type="checkbox"/> Not at all</li> </ul> <p>2. I have looked forward with enjoyment to things</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> As much as I ever did</li> <li><input type="checkbox"/> Rather less than I used to</li> <li><input type="checkbox"/> Definitely less than I used to</li> <li><input type="checkbox"/> Hardly at all</li> </ul> <p>*3. I have blamed myself unnecessarily when things went wrong</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Yes, most of the time</li> <li><input type="checkbox"/> Yes, some of the time</li> <li><input type="checkbox"/> Not very often</li> <li><input type="checkbox"/> No, never</li> </ul> <p>4. I have been anxious or worried for no good reason</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> No, not at all</li> <li><input type="checkbox"/> Hardly ever</li> <li><input type="checkbox"/> Yes, sometimes</li> <li><input type="checkbox"/> Yes, very often</li> </ul> <p>*5. I have felt scared or panicky for no very good reason</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Yes, quite a lot</li> <li><input type="checkbox"/> Yes, sometimes</li> <li><input type="checkbox"/> No, not much</li> <li><input type="checkbox"/> No, not at all</li> </ul> | <p>*6. Things have been getting on top of me</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Yes, most of the time I haven't been able to cope at all</li> <li><input type="checkbox"/> Yes, sometimes I haven't been coping as well as usual</li> <li><input type="checkbox"/> No, most of the time I have coped quite well</li> <li><input type="checkbox"/> No, I have been coping as well as ever</li> </ul> <p>*7. I have been so unhappy that I have had difficulty sleeping</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Yes, most of the time</li> <li><input type="checkbox"/> Yes, sometimes</li> <li><input type="checkbox"/> Not very often</li> <li><input type="checkbox"/> No, not at all</li> </ul> <p>*8. I have felt sad or miserable</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Yes, most of the time</li> <li><input type="checkbox"/> Yes, quite often</li> <li><input type="checkbox"/> Not very often</li> <li><input type="checkbox"/> No, not at all</li> </ul> <p>*9. I have been so unhappy that I have been crying</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Yes, most of the time</li> <li><input type="checkbox"/> Yes, quite often</li> <li><input type="checkbox"/> Only occasionally</li> <li><input type="checkbox"/> No, never</li> </ul> <p>*10. The thought of harming myself has occurred to me</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Yes, quite often</li> <li><input type="checkbox"/> Sometimes</li> <li><input type="checkbox"/> Hardly ever</li> <li><input type="checkbox"/> Never</li> </ul> |
|---|---|

Administered/Reviewed by \_\_\_\_\_ Date \_\_\_\_\_

<sup>1</sup>Source: Cox, J.L., Holden, J.M., and Sagovsky, R. 1987. Detection of postnatal depression: Development of the 10-item Edinburgh Postnatal Depression Scale. *British Journal of Psychiatry* 150:782-786.

<sup>2</sup>Source: K. L. Wisner, B. L. Parry, C. M. Plonk, Postpartum Depression N Engl J Med vol. 347, No 3, July 18, 2002, 194-199

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(Edinburg Postnatal Depression Scale, n.d.)

## Appendix B

## SF-36 QUESTIONNAIRE

Name: \_\_\_\_\_

Ref. Dr: \_\_\_\_\_

Date: \_\_\_\_\_

ID#: \_\_\_\_\_

Age: \_\_\_\_\_

Gender: M / F

Please answer the 36 questions of the **Health Survey** completely, honestly, and without interruptions.

**GENERAL HEALTH:****In general, would you say your health is:**☐ Excellent☐ Very Good☐ Good☐ Fair☐ Poor**Compared to one year ago, how would you rate your health in general now?**☐ Much better now than one year ago☐ Somewhat better now than one year ago☐ About the same☐ Somewhat worse now than one year ago☐ Much worse than one year ago**LIMITATIONS OF ACTIVITIES:**

The following items are about activities you might do during a typical day. Does your health now limit you in these activities? If so, how much?

**Vigorous activities, such as running, lifting heavy objects, participating in strenuous sports.**☐ Yes, Limited a Lot☐ Yes, Limited a Little☐ No, Not Limited at all**Moderate activities, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf**☐ Yes, Limited a Lot☐ Yes, Limited a Little☐ No, Not Limited at all**Lifting or carrying groceries**☐ Yes, Limited a Lot☐ Yes, Limited a Little☐ No, Not Limited at all**Climbing several flights of stairs**☐ Yes, Limited a Lot☐ Yes, Limited a Little☐ No, Not Limited at all**Climbing one flight of stairs**☐ Yes, Limited a Lot☐ Yes, Limited a Little☐ No, Not Limited at all**Bending, kneeling, or stooping**☐ Yes, Limited a Lot☐ Yes, Limited a Little☐ No, Not Limited at all**Walking more than a mile**☐ Yes, Limited a Lot☐ Yes, Limited a Little☐ No, Not Limited at all**Walking several blocks**☐ Yes, Limited a Lot☐ Yes, Limited a Little☐ No, Not Limited at all**Walking one block**☐ Yes, Limited a Lot☐ Yes, Limited a Little☐ No, Not Limited at all

## Appendix B Continued

**Bathing or dressing yourself**☐ Yes, Limited a Lot☐ Yes, Limited a Little☐ No, Not Limited at all**PHYSICAL HEALTH PROBLEMS:**

During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of your physical health?

**Cut down the amount of time you spent on work or other activities**☐ Yes☐ No**Accomplished less than you would like**☐ Yes☐ No**Were limited in the kind of work or other activities**☐ Yes☐ No**Had difficulty performing the work or other activities (for example, it took extra effort)**☐ Yes☐ No**EMOTIONAL HEALTH PROBLEMS:**

During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems (such as feeling depressed or anxious)?

**Cut down the amount of time you spent on work or other activities**☐ Yes☐ No**Accomplished less than you would like**☐ Yes☐ No**Didn't do work or other activities as carefully as usual**☐ Yes☐ No**SOCIAL ACTIVITIES:**

Emotional problems interfered with your normal social activities with family, friends, neighbors, or groups?

☐ Not at all☐ Slightly☐ Moderately☐ Severe☐ Very Severe**PAIN:**

How much bodily pain have you had during the past 4 weeks?

☐ None☐ Very Mild☐ Mild☐ Moderate☐ Severe☐ Very Severe

During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)?

☐ Not at all☐ A little bit☐ Moderately☐ Quite a bit☐ Extremely

## Appendix B Continued

**ENERGY AND EMOTIONS:**

These questions are about how you feel and how things have been with you during the last 4 weeks. For each question, please give the answer that comes closest to the way you have been feeling.

**Did you feel full of pep?**

- ☐ All of the time
- ☐ Most of the time
- ☐ A good Bit of the Time
- ☐ Some of the time
- ☐ A little bit of the time
- ☐ None of the Time

**Have you been a very nervous person?**

- ☐ All of the time
- ☐ Most of the time
- ☐ A good Bit of the Time
- ☐ Some of the time
- ☐ A little bit of the time
- ☐ None of the Time

**Have you felt so down in the dumps that nothing could cheer you up?**

- ☐ All of the time
- ☐ Most of the time
- ☐ A good Bit of the Time
- ☐ Some of the time
- ☐ A little bit of the time
- ☐ None of the Time

**Have you felt calm and peaceful?**

- ☐ All of the time
- ☐ Most of the time
- ☐ A good Bit of the Time
- ☐ Some of the time
- ☐ A little bit of the time
- ☐ None of the Time

**Did you have a lot of energy?**

- ☐ All of the time
- ☐ Most of the time
- ☐ A good Bit of the Time
- ☐ Some of the time
- ☐ A little bit of the time
- ☐ None of the Time

## Appendix B Continued

**Have you felt downhearted and blue?**

- ☐ All of the time
- ☐ Most of the time
- ☐ A good Bit of the Time
- ☐ Some of the time
- ☐ A little bit of the time
- ☐ None of the Time

**Did you feel worn out?**

- ☐ All of the time
- ☐ Most of the time
- ☐ A good Bit of the Time
- ☐ Some of the time
- ☐ A little bit of the time
- ☐ None of the Time

**Have you been a happy person?**

- ☐ All of the time
- ☐ Most of the time
- ☐ A good Bit of the Time
- ☐ Some of the time
- ☐ A little bit of the time
- ☐ None of the Time

**Did you feel tired?**

- ☐ All of the time
- ☐ Most of the time
- ☐ A good Bit of the Time
- ☐ Some of the time
- ☐ A little bit of the time
- ☐ None of the Time

**SOCIAL ACTIVITIES:**

**During the past 4 weeks, how much of the time has your physical health or emotional problems interfered with your social activities (like visiting with friends, relatives, etc.)?**

- ☐ All of the time
- ☐ Most of the time
- ☐ Some of the time
- ☐ A little bit of the time
- ☐ None of the Time

## Appendix B Continued

**GENERAL HEALTH:****How true or false is each of the following statements for you?****I seem to get sick a little easier than other people**☐ Definitely true☐ Mostly true☐ Don't know☐ Mostly false☐ Definitely false**I am as healthy as anybody I know**☐ Definitely true☐ Mostly true☐ Don't know☐ Mostly false☐ Definitely false**I expect my health to get worse**☐ Definitely true☐ Mostly true☐ Don't know☐ Mostly false☐ Definitely false**My health is excellent**☐ Definitely true☐ Mostly true☐ Don't know☐ Mostly false☐ Definitely false

(SF-36 Questionnaire, n.d.)